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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
WEDDINGTON, KEVIN E	

ART UNIT	PAPER NUMBER
1614	

DATE MAILED: 04/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/633,402	KLIMBERG ET AL.	
	Examiner	Art Unit	
	Kevin E. Weddington	1614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-14,19-26 and 44-58* is/are pending in the application.

4a) Of the above claim(s) *19-26* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-14 and 44-58* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11-2-04*. ✓ 11/12/04
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

RD

Claims 6-14, 19-26 and 44-58 are presented for examination.

Applicants' information disclosure statement filed November 12, 2004 has been received and entered.

Applicants' election filed November 2, 2004 in response to the restriction requirement of August 31, 2004 has been received and entered. The applicants elected the invention described in claims 6-14 and 44-58 (Group I) with traverse.

Applicants' traverse of the restriction requirement is not deemed persuasive for reasons set forth in the previous Office action dated August 31, 2004; therefore, the restriction requirement is hereby made Final.

Claims 19-26 are withdrawn from consideration as being drawn to the non-elected invention (37 CFR 1.142(b)).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 6-14 and 44-58 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 10-12 of copending Application No. 10/903,500. Although the conflicting claims are not

identical, they are not patentably distinct from each other because copending application 10/903,500 teaches a method of monitoring the effectiveness of glutamine supplementation to protect breast tissue against radiation injury; and the present application teaches a method of protection non-mucosal tissue (breast tissue) against damage from radiation therapy by administering a therapeutically effective amount of glutamine. Clearly, the copending application's method encompasses the present application's method wherein the administration of glutamine protects the breast tissue against radiation injury from radiation therapy.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 6-14 and 44-58 are not allowed.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 6-14 and 44-58 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of protecting breast tissue against damage from radiation therapy, comprising administering to a mammalian subject afflicted with breast cancer a composition comprising glutamine, a carbohydrate (sucrose), and a sugar alcohol (sorbitol), does not reasonably provide enablement for protecting non-mucosal tissue against damage from radiation therapy wherein the subject is afflicted with other types of cancer or the glutamine is combined with other carbohydrates to increase the absorption of glutamine or prevents increased breast density

and edema. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

In this regard, the application disclosure and claims have been compared per factors indicated in the decision In re Wands, 8 USPQ2d 1400 (Fed. Cir., 1988) as to undue experimentation.

The factors include:

1) the quantity of experimentation necessary

2) the amount of direction or guidance provided

3) the presence or absence of working examples

4) the nature of the invention

5) the state of the art

6) the relative skill of those in the art

7) the predictability of the art and

8) the breadth of the claims

The instant specification fails to provide guidance that would allow the skilled artisan background sufficient to practice that instant invention without resorting to undue experimentation in view of further discussion below.

The nature of the invention, state of the prior art, relative skill of those in the art and the predictability of the art

The claimed invention relates to a method of protecting non-mucosal tissue against damage from radiation therapy, the method comprising administering to a mammalian subject afflicted with cancer and treated with radiation therapy a composition

comprising a therapeutically effective amount of glutamine or a pharmaceutically acceptable salt thereof, that protects the non-mucosal tissue against radiation therapy and prevents increased breast density and prevents edema.

The relative skill of those in the art is generally that of a Ph.D. or M.D.

The present invention is unpredictable unless experimentation is shown for the instant glutamine composition is effective in a subject afflicted with other types of cancer, and the combination of glutamine with other carbohydrates besides sucrose and a sugar alcohol besides sorbitol.

It is clear the art to which the present invention relates is highly unpredictable and unreliable with respect to conclusions drawn from laboratory data extrapolated to clinical efficacy.

The breadth of the claims

The claims are very broad and inclusive to all types of cancers and the instant combination of glutamine with all types of carbohydrates

The amount of direction or guidance provided and the presence or absence of working examples

The working examples are limited to the administration a composition comprising glutamine with sucrose and a sugar alcohol (sorbitol) (Example 1) to non-mucosal tissue (breast tissue) against damage from radiation therapy wherein the subject is afflicted with breast cancer only (Example 4).

There are no examples showing the instant composition will, in fact, prevent increased breast density or prevent edema.

The quantity of experimentation necessary

Applicants have failed to provide guidance as to how the instant enabled glutamine composition is effective in protecting non-mucosal tissues in subjects afflicted with other types of cancer besides breast cancer. Also applicants have failed to provide guidance as to how glutamine combined with other carbohydrates are effective to protect non-mucosal tissues against radiation therapy damage.

The level of experimentation needed to determine the enabled glutamine composition is effective in protecting non-mucosal tissues in subjects afflicted with other types of cancers and how glutamine combined with other carbohydrates are effective to protect non-mucosal tissues against radiation therapy damage is undue. Therefore, undue experimentation would be required to practice the invention as it is claimed in its current scope.

The instant specification set forth no such understanding or any criteria for extrapolating beyond the administration of the enabled glutamine composition to protect non-mucosal tissues against radiation therapy damage. Even for the data presented, no direction is provided to prevent increased breast density or prevent edema. The specification provides inadequate guidance to do otherwise.

Claims 6-14 and 44-58 are not allowed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

> the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 6, 8, 9, 12-14, 44-47 and 54-58 rejected under 35 U.S.C. 103(a) as being unpatentable over Klimberg et al., "Honorary Lectureship, Glutamine, cancer, and its therapy", American Journal of Surgical Research, 172(5), November 1996, pp. 418-424 of PTO-1449 or Skubitz et al., "Oral glutamine to prevent chemotherapy induced stomatitis: a pilot study", Journal of Laboratory & Clinical Medicine, 127(2) February 1996, pp. 223-228 of PTO-1449.

Klimberg et al. teach the administration of glutamine protects the host and increases the selectivity of therapy for the tumor when give with radiation or chemotherapy. (See the Results: of abstract)

Skubitz et al. teach the administration of oral glutamine may protect the gut of the animal or mammal during radiation or chemotherapy (See the abstract)

Both references, individually, teach the administration of an oral glutamine supplement or composition will protect the host or mammal's gut from injury caused by radiation or chemotherapy.

The instant invention differs from the cited references in that the cited references do not teach the instant oral glutamine is used to protect non-mucosal tissue (breast tissue or skin) from injury caused by radiation therapy. However, one skilled in the are would have assumed the instant oral glutamine of the two cited references would protect the non-mucosal tissues of the applicants since the most animals or mammals or subjects who received radiation therapy have nauseated stomachs and the administration of oral glutamine decrease the severity of the radiation or chemotherapy induced nausea in the absence of evidence to the contrary.

The instant invention differs from the cited references in that the cited references do not the preferred amount of glutamine administered to the subject as disclosed in claims 44-47. However, to determine an amount having optimum effectiveness to protect non-mucosal tissue against damage from radiation therapy is well within the level of one having ordinary skill in the art, and the skilled artisan would have been motivated to determine optimum amounts to get the maximum effectiveness in the absence of evidence to the contrary.

Claims 6, 8, 9, 12-14, 44-47 and 54-58 are not allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin E. Weddington whose telephone number is (571)272-0587. The examiner can normally be reached on 11:00 am-7:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Low can be reached on (571)272-0951. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin E. Weddington
Primary Examiner
Art Unit 1614

K. Weddington
April 27, 2005